Seokhee Jeon, Ph.D.   *Curriculum Vitae*

Associate Professor   jeon@khu.ac.kr
School of Computing   haptics.khu.ac.kr
College of Software Convergence   +82-31-201-3485
Kyung Hee University
1732 Deokyoungdaero, Giheung-gu, Yongin-si, Gyeonggi-do
446-701, Republic of Korea

Education

Ph.D., Computer Science and Engineering, 2010, POSTECH
Dissertation: Haptic Augmented Reality: Modulating Real Object Stiffness
Advisor: Seungmoon Choi

B.S., Computer Science and Engineering, 2002, POSTECH

Positions

2023-	Director, Realistic Media Convergence Center in Convergence Technology Research institute at Kyung Hee Univ.
May 2021–	Head of the Project Group, Kyung Hee Realistic Media COSS
Mar 2022–	Part-Time Expert Committee Member, NRF Korea
Mar 2019–	Associate Professor, Kyung Hee University, Republic of Korea
Sep 2012–Feb 2019	Assistant professor, Kyung Hee University, Republic of Korea
Sep 2010–Aug 2012	Postdoctoral researcher, Computer Vision Laboratory at ETH Zürich, Switzerland
Jan 2010	Visiting researcher in Computer Vision Laboratory, ETH Zürich, Switzerland, Advisor: Matthias Harders
2003–2010	Research assistant, Haptics and Virtual Reality Lab., POSTECH
Dec 2005–Apr 2006	Visiting researcher in Human Interface Technology Lab. NZ, Univ. of Canterbury, New Zealand, Advisor: Mark Billinghurst
2004–2006	Administrator of CAVE Virtual Reality System at ChungAm Library, POSTECH

Research Interests

Data-driven modeling and rendering of haptic properties
Hyper-realistic haptic feedback generation for XR

Professional Memberships/Services

Membership: IEEE Computer Society, IEICE, EuroHaptics Society, Technical Committee on Haptics, Korea Haptics Community

Served as program committee for:
EuroHaptics 2022
IEEE Haptics Symposium 2022
IEEE VR 2019, 2020, 2021, 2022, 2023
SIGGRAPH Asia 2022, XR Program
IEEE ISMAR 2023
IEEE World Haptics Conference 2019
Korea Computer Congress 2022

Served as a journal associate editor for:
Frontiers in Virtual Reality (2023-)
Communications of the Korean Institute of Information Scientists and Engineers 2022
Guest Editor, IEEE Transactions on Haptics, World Haptics Conference Track 2020, 2022

Served as an external reviewer for:
ACM UIST 2019–
World Haptics Conference 2011–
IEEE Haptics Symposium 2010–
Eurohaptics 2010–
IEEE/ACM Int. Symp. Mixed and Augmented Reality 2009–
IEEE VR 2010–
Springer Virtual Reality
IEEE Transaction on Haptics
Presence: Teleoperators and Virtual Environments
IEEE Transactions on Biomedical Engineering

Advanced Robotics
IEEE Transaction on Robotics
IEEE Robotics and Automation Letter
Student Innovation Challenge Chair, World Haptics 2019
Student Challenge Chair, AsiaHaptics 2018
Video Chair, World Haptics Conference 2015
Student Volunteers Chair, Haptics Symposium 2016, 2018
Program Chair, HCI Korea 2015, 2016
Editor, ICROS (Institute of Control, Robotics and Systems, Korea) Journal (2014–2018)
Program Chair, Korea-Japan Workshop on Mixed Reality (2015)
Directing Board Member, Korea Haptics Community (2015–)
Directing Board Member, Korea HCI society (2018-)
Program Chair, International Symposium on Ubiquitous VR 2007
Korea NRF expert committee member (2022-)

Honors and Awards

Dec. 2020	Best Paper in Computer Graphics and Interaction Area, Korea Software Congress, "A Pneumatic Actuator Based Multi-Mode Haptic Feedback for Texture Rendering."
Nov. 2019	Best Full Paper Award, ACM Virtual Reality Software and Application, "Measurement-based Hyper-elastic Material Identification and Real-time FEM Simulation for Haptic Rendering."
Jun. 2017	Best Paper in Computer Graphics and Interaction Area, Korea Computer Congress, "An Analysis of Haptic Based Image Classification."
Jun. 2017	Outstanding Paper Award, URAI 2017, "Perceptual Thresholds for Haptic Texture Discrimination."
Jul. 2016	Best Poster Honorable Mention, EuroHaptics 2016, "Data-Driven Modeling of Anisotropic Haptic Textures: Data Segmentation and Interpolation."
Nov. 2015	Young Researcher Award, Korea Haptics Community
Nov. 2014	Demo Honorable Mention, AsiaHaptics 2014, "Normal and Tangential Force Decomposition and Augmentation Based on Contact Centroid."
Nov. 2013	Winner of the Best Paper Award, Korea Computer Congress 2014, "Haptic Rendering of Curved Surface by Bending an Encountered-Type Flexible Plate"
Feb. 9, 2011	Winner of the Best Ph.D. Dissertation Award, Dept. of Computer Science and Engineering, Pohang University of Science and Technology
2010	Winner of the Best Demonstration Award (among 34 demos), IEEE Haptics Symposium 2010 Conference, "Stiffness Modulation for Haptic Augmented Reality: Extension to 3D Interaction"
2005	Korea Research Foundation Scholarship
2003–2010	POSTECH Scholarship (tuition and monthly stipend)
2003–2009	Brain Korea 21 Fellowship (tuition and monthly stipend)

Acquired Funding

2022-2030	Project Partner, "Hyper-Realistic XR Research Center," Sejong Univ. ITRC Program, 70,000k KRW/Year
2021-2026	Project Leader, "Realistic Media COSS Project," NRF Korea, 1,400,000k KRW/Year
2023-2029	Project Partner, "Development of tactile standards and high-fidelity integrated haptic system for the realization of a hyper realistic metaverse," KRISS, 200,000 KRW/year
2022-2025	Project Leader, "Model-Mediated Adaptive Tele-Operation for Realistic Haptic Experience Sharing," Mid-Career Research Grant, NRF Korea, 100,000k KRW/Year
2022-2026	Project Leader, "Non-Wearable Visuo-Haptic Digital Twin Interface Platform for Displaying Multi-Modal Information of Digital Objects," IITP-MSIP, 400,000k KRW/Year
2021-	Project Leader, "Data Processing and Multi-Modal Interaction through EdgeCPS," ETRI Korea, 50,000k KRW/Year
2020-2021	Project Leader, "Handleless Car Door Using Haptic Push-Latch Effect," Basic Research, NRF Korea, 50,000k KRW/Year.
2019-2023	Project Partner, "Development of Virtual Objects Interaction Techniques in Life-Safety Situations," Ministry of the Interior and Safety, 100,000k KRW/Year
2017-2019	Project partner, "Development of Realistic Sensing/Rendering Technology for Handing

Down Intangible Cultural Heritage," Ministry of Culture, Sports and Tourism, 70,000k KRW/Year.

2017-2019 Project Leader, "Drone-Based Haptic Interface with Unlimited Workspace," Basic Research, NRF Korea, 50,000k KRW/Year.

2017-2019 Project partner, "HD Haptic Technology for Hyper Reality Contents," MSIP, IITP, 100,000k KRW/Year.

2016-2017 Project leader, "Perceptual Performance Enhancement of Ultrasonic Haptic Display," ETRI Korea, 70,000k KRW/Year.

2014–2017 Project leader, "Breast/ Prostate Tumor Palpation Using Haptic Mixed Reality," Basic Science Research Program, NRF Korea, 50,000k KRW/Year.

2012–2019 Project leader, "Haptic Modeling and Rendering Technology for Mirror World," Global Frontier, NRF Korea, 60,000k KRW/Year.

2013–2017 Project partner, "Real-time Mobile Cloud Research," ITRC, MKE, 20,000k KRW/Year.

2013–2018 Project partner, "Advanced Robotic Surgery based on Deep Tissue Imaging and Haptic Feedback Technology," ERC, NRF Korea, 50,000k KRW/Year.

2013–2014 Project leader, "Extension and Application of Haptic Augmented Reality: Multi-Finger and Palpation System and Augmented Reality Painting System," New researcher program, KHU, 20,000k KRW.

Publications: Books, Chapters, Proceedings

1. **Seokhee Jeon**, Tack Woo, Hyungyeop Kang, "The Future of Metaverse: Hyper Realistic Interaction," Kyung Hee University Press, 2022 (in Korean).
2. Arsen Abdulali and **Seokhee Jeon**, "Haptic Software Design," in Engineering Haptic Device, Springer Series on Touch and Haptic Systems, edited by T. A. Kern, C. Hatzfeld, A. Abbasimoshaei, pp. 537-585, Springer, 2022.
3. **Seokhee Jeon,** Seungmoon Choi, and Matthias Harders, "Haptic Augmented Reality: Taxonomy, Research Status, and Challenges," in Fundamentals of Wearable Computers and Augmented Reality, Second Edition, edited by Woodrow Barfield et al., CRC Press, 2015 .
4. **Seokhee Jeon**, Seungmoon Choi, and Matthias Harders, "Haptic Augmentation in Soft Tissue Interaction," in Multisensory Softness, Springer Series on Touch and Haptic Systems, edited by M. Di Luca, pp. 241-257, Springer, 2014.

Publications: Journal Articles

1. Waseem Hassan, Joolekha Bibi Joolee, and **Seokhee Jeon**, "Establishing haptic texture attribute space and predicting haptic attributes from image features using 1D-CNN," Scientific Reports, vol. 13, no. 11684, 2023.

2. CheolWoo Lee, **Seokhee Jeon**, Waseem Hassan, and HyeongYeop Kang, "VR unseen gaze: inducing feeling of being stared at in virtual reality," Springer Virtual Reality, vol. 27, pp.1529-1548, 2023.

3. Waseem Hassan, Ahsan Raza, Muhammad Abdullah, Hashem Mohammad Shadman, **Seokhee Jeon**, "HapWheel: Bringing in-car controls to driver's fingertips by embedding ubiquitous haptic displays into a steering wheel" IEEE Transactions on Intelligent Transportation Systems, vol. 23, no. 10, pp. 18526-18534, 2022.

4. Aishwari Talhan, Sanjeet Kumar, Hwangil Kim, Waseem Hassan, and **Seokhee Jeon,** "Multi-mode soft haptic thimble for haptic augmented reality based application of texture overlaying," Elsevier Displays, vol. 74, 102272, 2022.

5. Joolekha Bibi Joolee and **Seokhee Jeon**, "Data-Driven Haptic Texture Modeling and Rendering Based on Deep Spatio-Temporal Networks," IEEE Transactions on Haptics, vol. 15, no. 1, pp. 62-67, 2022.

6. Joolekha Bibi Joolee, Md Azher Uddin, and **Seokhee Jeon**, "Deep multi-model fusion network based real object tactile understanding from haptic data," Springer Applied Intelligence, vol. 310, 2022.

7. Mohammad Shadman Hashem, Joolekha Bibi Joolee, Waseem Hassan, and **Seokhee Jeon**, "Soft Pneumatic Fingertip Actuator Incorporating a Dual Air Chamber to Generate Multi-Mode Simultaneous Tactile Feedback," MDPI Applied Sciences, vol. 12, no. 1, 2022.

8. Arsen Abdulali, Ibragim R. Atadjanov, and **Seokhee Jeon**, "Visually Guided Acquisition of Contact Dynamics and Case Study in Data-Driven Haptic Texture Modeling," IEEE Transaction on Haptics, vol. 13, no. 3, pp. 611-627, 2020.

9. Arsen Abdulali, Ibragim Atadjanov, Seungkyu Lee, and **Seokhee Jeon**, "Realistic haptic rendering of hyper-elastic material via measurement-based FEM model identification and real-time simulation," Elsevier Computers & Graphics, vol. 89, pp. 38-49, 2020.

10. Aishwari Talhan, Hwangil Kim, and **Seokhee Jeon**, "Tactile Ring: Multi-Mode Finger-Worn Soft Actuator for Rich Haptic Feedback," IEEE Access, vol. 8, pp. 957-966, 2020.

11. Waseem Hassan, Arsen Abdulali, and **Seokhee Jeon**, "Authoring New Haptic Textures Based on Interpolation of Real Textures in Affective Space," IEEE Transactions on Industrial Electronics, vol. 67, no. 1, pp. 667-676, 2020.

12. Ahsan Raza, Waseem Hassan, Tatyana Ogay, Inwook Hwang, and **Seokhee Jeon**, "Perceptually Correct Haptic Rendering in Mid-Air using Ultrasound Phased Array," IEEE Transactions on Industrial Electronics 2019, vol. 67, no. 1, pp. 736-745, 2020.

13. Waseem Hassan, Hwangil Kim, Aishwari Talhan, and **Seokhee Jeon**, "A Pneumatically-Actuated Mouse for Delivering Multimodal Haptic Feedback," MDPI Applied Sciences, vol. 10, no. 16, 2020.

14. Joolekha Bibi Joolee, Ahsan Raza, Muhammad Abdullah, **Seokhee Jeon**, "Tracking of Flexible Brush Tip on Real Canvas: Silhouette-Based and Deep Ensemble Network-Based Approaches," IEEE Access, vol. 8, pp. 115778-115788, 2020.

15. Aishwari Talhan and **Seokhee Jeon**, "Programmable Prostate Palpation Simulator Using Property-Changing Pneumatic Bladder," Elsevier Computers in Biology and Medicine, vol. 96, pp. 166-177, 2018.

16. Waseem Hassan, Arsen Abdulali, Muhammad Abdullah, Sang Chul Ahn, and **Seokhee Jeon**, "Towards Universal Haptic Library: Library-Based Haptic Texture Assignment Using Image Texture and Perceptual Space," IEEE Transactions on Haptics, vol. 11, no. 2, pp. 291-303, 2018.

17. Aishwari Talhan and **Seokhee Jeon**, "Pneumatic Actuation in Haptic-Enabled Medical Simulators: A Review," IEEE Access, vol. 6, pp. 3184-3200, 2018.

18. Arsen Abdulali, Ruslan Rakhmatov, Tatyana Ogay, and **Seokhee Jeon**, "Data-Driven Modeling and Rendering of Force Responses from Elastic Tool Deformation," MDPI Sensors, vol. 18, no. 1, 2018.

19. **Seokhee Jeon**, Hongchae Lee, Jiyoung Jung, and Jin Ryong Kim, "User-Adaptive Key Click Vibration on Virtual Keyboard," Mobile Information Systems, vol. 2018, ID. 6126140, 2018.

20. Arsen Abdulali, Waseem Hassan, and **Seokhee Jeon**, "Stimuli-Magnitude-Adaptive Sample Selection for Data-Driven Haptic Modeling," MDPI Entropy, vol. 18, no. 222, 2016.

21. Kunryun Cho, **Seokhee Jeon**, Jinsung Cho, and Ben Lee, "ISRMC-MAC: Implementable Single-Radio, Multi-Channel MAC Protocol for WBANs," KSII Transactions on Internet and Information Systems, vol. 10, no. 3, pp. 1052-1070, 2016.

22. **Seokhee Jeon**, "Haptic Rendering of Curved Surface by Bending an Encountered-Type Flexible Plate," IEICE Information and Systems, vol. E99-D, no. 7, pp. 1862-1870, 2016.

23. Sunghoon Yim, **Seokhee Jeon**, and Seungmoon Choi, "Data-Driven Haptic Modeling and Rendering of Viscoelastic and Frictional Responses of Deformable Objects," IEEE Transactions on Haptics, vol. 9, no. 4, pp. 548-559, 2016.

24. Beomseok Kim, Jinsung Cho, **Seokhee Jeon**, and Ben Lee, "An AHP-Based Flexible Relay Node Selection Scheme for WBANs," Springer Wireless Personal Communications, vol. 89, no. 2, pp. 501-520, 2016.

25. Sunghoon Yim, **Seokhee Jeon**, and Seungmoon Choi, "Topography Compensation for Haptization of a Mesh Object and Its Stiffness Distribution," IEEE Transactions on Haptics, vol. 8, no. 1, pp. 90-101, 2015.

26. **Seokhee Jeon** and Matthias Harders, "Haptic Tumor Augmentation: Exploring Multi-Point Interaction," IEEE Transactions on Haptics, vol. 7, no. 4, pp. 477-485, 2014.

27. Tahrima Hashem, Chowdhury Farhan Ahmed, Md. Samiullah, Sayma Akther, Byeong-Soo Jeong, and **Seokhee Jeon**, "An Efficient Approach for Mining Cross-Level Closed Itemsets and Minimal Association Rules Using Closed Itemset Lattices," Elsevier Expert Systems with Applications, vol. 41, no. 6, pp. 2914-2938, 2014.

28. Byeong-Soo Jeong, A.T.M. Golam Bari, Mst. Rokeya Reaz, **Seokhee Jeon**, Chae-Gyun Lim, and Ho-Jin Choi, "Codon-Based Encoding for DNA Sequence Analysis," Elsevier Methods, vol. 67, no. 3, pp. 373-379, 2014.

29. Asad Masood Khattak, Noman Akbar, Mohammad Aazam, Taqdir Ali, Adil Mehmood Khan, **Seokhee Jeon**, Myunggwon Hwang, and Sungyoung Lee, "Context Representation and Fusion: Advancements and Opportunities," MDPI Sensors, vol. 14, no. 6, pp. 9628-9668, 2014.

30. **Seokhee Jeon**, "Haptically Assisting Breast Tumor Detection by Augmenting Abnormal Lump," IEICE Transactions on Information & Systems, vol. E97-D, no. 2, pp. 361-365, 2014.

31. Jin Wang, Xiaoqin, Bin Li, Sungyoung Lee, and **Seokhee Jeon**, "A Mobile Sink Based Uneven Clustering Algorithm for Wireless Sensor Networks," Journal of Internet Technology, vol. 14, no. 6, pp. 895-902, 2013.

32. Eung Jun Cho, Choong Seon Hong, Sungwon Lee, and **Seokhee Jeon**, "A Partially Distributed Intrusion Detection System for Wireless Sensor Networks," MDPI Sensors, vol. 13, no. 12, pp. 15863-15879, 2013.

33. **Seokhee Jeon**, Matthias Harders, and Seungmoon Choi, "Rendering Virtual Tumors in Real Tissue Mock-Ups Using Haptic Augmented Reality," IEEE Transactions on Haptics, vol. 5, no. 1, pp. 77-84, 2012.

34. **Seokhee Jeon** and Seungmoon Choi, "Real Stiffness Augmentation for Haptic Augmented Reality," Presence: Teleoperators and Virtual Environments, vol. 20, no. 4, pp. 337-370, 2011.

35. **Seokhee Jeon** and Seungmoon Choi, "Haptic Augmented Reality: Taxonomy and Example of Stiffness Modulation," Presence: Teleoperators and Virtual Environments, vol. 18, no. 5, pp. 387-408, 2009.

36. **Seokhee Jeon**, Jane Hwang, Gerard J. Kim, and Mark Billinghurst, "Interaction with Large Ubiquitous Displays Using Camera-Equipped Mobile Phones," Personal and Ubiquitous Computing, vol. 14, no. 2, pp. 83-94, 2010.

37. **Seokhee Jeon**, Hyeongseop Shim, and Gerard J. Kim, "Viewpoint Usability for Desktop Augmented Reality," International Journal of Virtual Reality, vol.5. no.3, pp.33-39, 2006.

Publication: Conference Papers (Peer-Reviewed)

1. Mudassir Awan, Waseem Hassan, and Seokhee Jeon, "Predicting Perceptual Haptic Attributes of Textured Surface from Tactile Data Based on Deep CNN-LSTM Network," ACM Symposium on Virtual Reality Software and Technology, pp. 1-9, 2023(Oral presentation; acceptance rate = 25.7%).

2. Yong Hea Heo, Gyubin An, Hyun-Jeong Kim, Sang-Youn Kim, Dong-Soo Choi, Mohammas Shadman Hashem, and Seokhee Jeon, "Wireless Dual Mode Haptic Thimble based on Magnetoactive Rubber," IEEE World Haptics Conference, pp. 71-76, 2023.

3. Mudassir Ibrahim Awan, Tatyana Ogay, Waseem Hassan, Dongbeom Ko, Sungjoo Kang, and Seokhee Jeon, "Model-Mediated Teleoperation for Remote Haptic Texture Sharing: Initial Study of Online Texture Modeling and Rendering," IEEE International Conference on Robotics and Automation, pp. 12457-12463, 2023.

4. Joolekha Bibi Joolee and Seokhee Jeon, "Deep Multi-Modal Network Based Data-Driven Haptic Textures Modeling," IEEE World Haptics Conference, pp. 115-120, 2021 (Poster).

5. Sunghoon Yim, Seungmoon Choi, and Seokhee Jeon, "Multi-Contact Stiffness and Friction Augmentation Using Contact Centroid-Based Normal-Tangential Force Decomposing," IEEE World Haptics Conference, pp. 385-390, 2021.

6. Arsen Abdulali and **Seokhee Jeon**, "Data-driven Haptic Modeling of Plastic Flow via Inverse Reinforcement Learning," IEEE World Haptics Conference, pp. 115-120, 2021.

7. Arsen Abdulali, Ibragim Atadjanov, Seungkyu Lee, and Seokhee Jeon, "Measurement-based Hyper-elastic Material Identification and Real-time FEM Simulation for Haptic Rendering," In Proceedings of ACM Symposium on Virtual Reality Software and Technology, 2019 **(Recipient of Best Full Paper Awards, awarded to one best paper among 180 submissions)**

8. SW Seo, SJ Kwon, Waseem Hassan, Aishwari Talhan, Seokhee Jeon, "Interactive Virtual-Reality Fire Extinguisher with Haptic Feedback," in Proceedings of the ACM Symposium on Virtual Reality Software and Technology, 2019 (Poster).

9. Photchara Ratsamee, Kotaro Yamaguchi, Kiyoshi Kiyokawa, Haruo Takemura, Seokhee Jeon, Yoshihiro Kuroda, "Uhd: Unconstrained haptic display using a self-localized quadrotor," in Proceedings of International Symposium on Artificial Life and Robotics, 2019.

10. Aishwari Talhan, Hwangil Kim, and Seokhee Jeon, "Wearable Soft Pneumatic Ring with Multi-Mode Controlling for Rich Haptic Effects," In Proceedings of SIGGRAPH '19, 2019 (Poster).

11. Minji Kim, Arsen Abdulali, and Seokhee Jeon, "Rendering Vibrotactile Flow on Backside of the Head: Initial Study," In Proceedings of IEEE Game, Entertainment, Media Conference, 2018 (Oral presentation).

12. Ruslan Rakhmatov, Arsen Abdulali, Waseem Hassan, Minji Kim, and Seokhee Jeon, "Virtual Reality Bicycle with Data-Driven Vibrotactile Responses from Road Surface Textures," In Proceedings of IEEE Game, Entertainment, Media Conference, 2018 (Poster presentation).

13. Muhammad Abdullah, Waseem Hassan, and **Seokhee Jeon**, "Haptic Logos: Insight into the Feasibility of Digital Haptic Branding," In Proceedings of EuroHaptics, pp. 696-708, 2018 **(Oral presentation; acceptance rate = 24%).**

14. Muhammad Abdullah, Minji Kim, Waseem Hassan, Yoshihiro Kuroda, and **Seokhee Jeon**, "HapticDrone - An Encountered-Type Kinesthetic Haptic Interface with Controllable Force Feedback: Example of Stiffness and Weight Rendering," In Proceedings of Haptics Symposium 2018 **(Oral presentation: acceptance rate < 20%).**

15. Muhammad Abdullah, Minji Kim, Waseem Hassan, Yoshihiro Kuroda, and **Seokhee Jeon**, "HapticDrone - An Encountered-Type Kinesthetic Haptic Interface with Controllable Force Feedback: Initial Example for 1D Haptic Feedback," In Proceedings of ACM UIST, pp. 115-117, 2017 (Poster Presentation).

16. Aishwari Talhan and **Seokhee Jeon**, "Reconfigurable DRE Simulator using Augmented Haptics," In Proceedings of Engineering in Medicine and Biology Conference, 2017.

17. Waseem Hassan, Arsen Abdulali, and **Seokhee Jeon**, "Perceptual Threshold for Haptic Texture Discrimination" International Conference on Ubiquitous Robots and Ambient Intelligence (Poster), 2017. **(Recipient of outstanding paper award).**

18. Arsen Abdulali, Waseem Hassan, and **Seokhee Jeon**, "Sample Selection of Multi-Trial Data for Data-Driven Haptic Texture Modeling," In Proceedings of the IEEE World Haptics, pp. 66-71, 2017 **(Oral presentation; acceptance rate = 12%).**

19. Arsen Abdulali and **Seokhee Jeon**, "Data-Driven Rendering of Anisotropic Haptic Textures," In Proceedings of AsiaHaptics, 2016.

20. Waseem Hassan, Arsen Abdulali, and **Seokhee Jeon**, "Towards Universal Haptic Library: Library-Based Haptic Texture Assignment Using Image Texture and Perceptual Space," In Proceedings of AsiaHaptics, 2016.

21. Aishwari Talhan and **Seokhee Jeon**, "Prostate Tumor Palpation Simulator Based on Pneumatic and Augmented Haptics," In Proceedings of AsiaHaptics, 2016.

22. Arsen Abdulali and **Seokhee Jeon**, "Data-Driven Modeling of Anisotropic Haptic Textures: Data Segmentation and Interpolation," In Proceedings of EuroHaptics, pp. 228-239, 2016 **(Honorable mention – Final candidate for the best poster award).**

23. Waseem Hassan and **Seokhee Jeon**, "Evaluating Differences Between Bare-handed and Tool-Based Interaction in Perceptual Space," In Proceedings of IEEE Haptics Symposium, pp. 185-191, 2016.

24. Sunghoon Yim, **Seokhee Jeon**, and Seungmoon Choi, "Data-Driven Haptic Modeling and Rendering of Deformable Objects Including Sliding Friction," In Proceedings of the IEEE World Haptics Conference (WHC), pp. 305-312, 2015.

25. Sunghoon Yim, **Seokhee Jeon**, and Seungmoon Choi, "Normal and Tangential Force Decomposition and Augmentation Based on Contact Centroid," AsiaHaptics, 2014 **(Honorable mention - Final candidate for the best demo award).**

26. Noman Akbar and **Seokhee Jeon**, "Encountered-Type Haptic Interface for Grasping Interaction with Round Variable Sized Objects via Pneumatic Balloon," in Proceedings of EuroHaptics, pp. 192-200, 2014 (Poster presentation).

27. Orcun Goksel, **Seokhee Jeon**, Matthias Harders, and Gabor Szekely, "Deformable Haptic Model Generation Through Manual Exploration," in Proceedings of the World Haptics Conference (WHC), pp. 543-548, 2013 (Oral presentation).

28. **Seokhee Jeon** and Matthias Harders, "Extending Haptic Augmented Reality: Modulating Stiffness during Two-Point Squeezing," In Proceedings of the IEEE Haptics Symposium (HS), pp. 141-146, 2012 **(Oral presentation; acceptance rate = 26%).**

29. **Seokhee Jeon**, Jean-Claude Metzger, Seungmoon Choi, and Matthias Harders, "Extensions to Haptic Augmented Reality: Modulating Friction and Weight," In Proceedings of the World Haptics Conference (WHC), pp. 227-232, 2011 (Oral presentation; acceptance rate = 16.6%).

30. **Seokhee Jeon**, Benjamin Knoerlein, Matthias Harders, and Seungmoon Choi, "Haptic Simulation of Breast Cancer Palpation: A Case Study of Haptic Augmented Reality," In Proceedings of the IEEE International Symposium on Mixed and Augmented Reality (ISMAR), pp. 237-238, 2010.

31. **Seokhee Jeon** and Seungmoon Choi, "Stiffness Modulation for Haptic Augmented Reality: Extension to 3D Interaction," In Proceedings of the IEEE Haptics Symposium (HS), pp. 273-280, 2010 **(Recipient of Best Demo Award).**

32. Gabjong Han, Jaebong Lee, In Lee, **Seokhee Jeon**, and Seungmoon Choi, "Effects of Kinesthetic Information on Memory Chunking in 2D Sequential Selection Task," In Proceedings of the Haptics Symposium (HS), pp. 43-46, 2010 (Oral presentation; Extended

abstract; Acceptance rate = 18.7%).

33. Gabjong Han, **Seokhee Jeon**, and Seungmoon Choi, "Improving Perceived Hardness of Haptic Rendering via Stiffness Shifting: An Initial Study," In Proceedings of the ACM Symposium on Virtual Reality Software and Technology, pp. 87-90, 2009 (acceptance rate = 23.7%).

34. **Seokhee Jeon** and Seungmoon Choi, "Modulating Real Object Stiffness for Haptic Augmented Reality," Lecture Notes on Computer Science (EuroHaptics 2008), vol. 5024, pp. 609-618, 2008 (Acceptance rate = 36%).

35. **Seokhee Jeon** and Gerard J. Kim, "Providing a Wide Field of View for Effective Interaction in Desktop Tangible Augmented Reality," In Proceedings of the IEEE Virtual Reality, pp. 3-10, 2008 (Acceptance rate = 25%).

36. **Seokhee Jeon**, Gerard J. Kim, and Mark Billinghurst, "Interacting with a Tabletop Display Using a Camera Equipped Mobile Phone," Lecture Notes on Computer Science (HCI International 2007), vol. 4551, pp. 336-343, 2007.

37. **Seokhee Jeon**, Jane Hwang, Gerard J. Kim, and Mark Billinghurst, "Interaction Techniques in Large Display Environments using Hand-held Devices," In Proceedings of the ACM Symposium on Virtual Reality Software and Technology, pp. 100-103, 2006.

Publication: Non-refereed Conference Papers/Poster/Demo/Abstract

1. Mudassir Awan, Ahsan Raza, and Seokhee Jeon, "DroneHaptics: Encountered-Type Haptic Interface Using Dome-Shaped Drone for 3-DoF Force Feedback," IEEE International Conference on Ubiquitous Robots, pp. 195-200, 2023 (Poster).

2. Mohammad Shadman Hashem, Joolekha Bibi Joolee, Waseem Hassan, and **Seokhee Jeon**, "A Silicone Based Finger-Tip Pneumatic Actuator to Render Multi-Mode Haptic Feedback," International Conference on Ubiquitous Robots, 2021 (Poster).

3. Waseem Hassan, Arsen Abdulali, and **Seokhee Jeon,** "Authoring New Haptic Textures Based on Interpolation of Real Textures in Affective Space: A Demo," Haptics Symposium 2018 (Demonstration).

4. Minji Kim, Hwangil Kim, Hyeonhee Weong, and **Seokhee Jeon**, "Turning Color into Vibration: Representing Color Information through Vibrotactile Feedback," Journal of Advanced Technology Research, 2017.

5. Aishwari Talhan and **Seokhee Jeon**, "An Application of Augmented Haptics: Prostate Palpation Simulator with Realism," APMAR, 2017.

6. Sunghoon Yim, **Seokhee Jeon**, and Seungmoon Choi, "Data-driven haptic modeling and rendering of frictional sliding contact with soft objects for medical training," International Conference on Ubiquitous Robots and Ambient Intelligence (Poster), 2014.

7. **Seokhee Jeon**, "Research Progress in Haptic Augmented Reality", Korea-Japan Mixed Reality Workshop, 2014.

8. Sunghoon Yim, **Seokhee Jeon**, Seungmoon Choi, and Matthias Harders, "Progresses for haptic augmented reality," World Haptics Conference (Demonstration), 2011.

9. **Seokhee Jeon**, Seungmoon Choi, and Matthias Harders, "Rendering Virtual Tumors in Real Tissue Mock-Ups Using Haptic Augmented Reality," Korea-Japan Workshop on Mixed Reality (KJMR), 2011.

10. **Seokhee Jeon**, Seungmoon Choi, Gabjong Han, and Matthias Harders, "Haptic augmented reality and an example of breast cancer palpation," Technical demonstration for the IEEE International Symposium on Mixed and Augmented Reality (ISMAR), 2010.

11. **Seokhee Jeon** and Seungmoon Choi, "Modulating Real Object Stiffness for Haptic Augmented Reality," Demonstrated in the IEEE Virtual Reality, 2010 (Demonstration).

12. **Seokhee Jeon** and Seungmoon Choi, "Haptic Augmented Reality: Modulation of Real Object Stiffness," In DVD Proceedings of World Haptics Conference, pp. 384- 385, 2009 (Demonstration).

13. **Seokhee Jeon** and Gerard J. Kim, "Mosaicing a Wide Geometric Field of View for Effective Interaction in Augmented Reality," In Proceedings of the IEEE and ACM International Symposium on Mixed and Augmented Reality, pp. 1-2, 2007 (Poster).

14. Yongjin Kim, Jaehoon Jung, **Seokhee Jeon**, Sangyoon Lee, and Gerard J. Kim, "Telepresnce Meets Racing Games," In proceedings of the ACM SIGCHI International Conference on Advances in Computer Entertainment Technology, 2005 (Demonstration, Poster).

Patents

1. Korea patent registered, "Haptic apparatus, haptic system and haptic control method using unmanned aerial vehicle," 10-2509068-0000, 2023

2. Korea patent registered, "Apparatus for controlling electronic function module in the vehicle using steering wheel with dual ubiquitous haptic sensor," 10-2275761-0000, 2020.

3. Korea patent registered, "Car control lever," 10-2024462, 2019.

4. Korea patent registered, "Emotion delivering through vibrotactile feedback," 10-2049838, 2019.

5. Korea patent registered, "User adaptive virtual keyboard vibration," 10-1917008, 2018.

6. Korea patent registered, "Curvature Haptic Device and Curvature Rendering Method," 10-1565571, 2015.

7. US patent pending, "Apparatus and Method for Providing Haptic Augmented Reality," US 12/394,032, 2009.

8. Korea patent registered, "Apparatus and Method for Motion Recognition," 10-0992567, 2010.

9. Korea patent pending, "Game Controller, Server, and Motion Tracking Method Using IR Position Tracking and Accelerometer," 10-2007-0140535, 2007.

Teaching

Since 2020	Digital Experience through Immersive Interaction
Since 2019	Introduction to Virtual and Augmented Reality
Since 2018	UI/UX Programming
Since 2018	Introduction to Computer Game
Since 2016	Computational Geometry, Dept. Computer Engineering, Kyung Hee Univ.
Since 2014	Advanced Human Computer Interaction, Dept. Computer Engineering, Kyung Hee Univ.
Since 2012	Programming Basics, Dept. Computer Engineering, Kyung Hee Univ.
Since 2014	Object-Oriented Programming, Dept. Computer Engineering, Kyung Hee Univ.
Since 2013	Human Computer Interaction, Dept. Computer Engineering, Kyung Hee Univ.
2004–2006	Teaching assistant, Introduction to Virtual Reality, Automata and Formal Language, Introduction to Programming, Dept. CSE, POSTECH

Advising

2013-2015	Noman Akbar (Master Course)
2013-2015	Hongchae Lee (Master Course)
2013-2016	Yoona Jeong (Master Course)
2014-2021	Arsen Abdulali (Master-PhD Combined Course)
2014-2022	Waseem Hassan (PhD Course)

2015-2018	Aishwari Talhan (PhD Course)
Since 2015	Ogay Tatyana (Master and PhD Course)
Since 2016	Ahsan Raza (Master-PhD Combined Course)
2016-2018	Minji Kim (Master Course)
2016-2018	Muhammad Abdullah (Master Course)
2016-2018	Ruslan Rakhmatov (Master Course)
Since 2018	Mudassir Awan (Master-PhD Course)
2018-2023	Joolekha Bibi Joolee (PhD Course)
2017-2019	Hwangil Kim (Master Course)
Since 2019	Valerie Park (Master)
Since 2019	Mohammad Shadman Hashem (Master-PhD)
2020-2023	Vitaliy Pak (PhD)
2021-2022	Hyunjin Lee (Master)
Since 2022	Sama E Shan
Since 2023	Seungchae Kim
Since 2023	Kevin Fischler

Presentations

2022	"Affection Analysis of Car Doors" Invited Talk, Vehicle Affection Conference, Hyundai
2022	"Future of Metaverse: Hyper Realism," Invited Talk, AsiaHaptics 2022
2022	"Physical Interaction for Hyper Realistic Metaverse", Invited Talk, iTIP Korea 2022
2021	"Utilizing VR and AR in Practice Class" Invited Talk, East-West Nursing Research Institute Conference
2021	"Data-Driven Modeling and Rendering of Haptic Properties," Invited Talk, GIST Graduate School Colloquium
2021	"Haptic Feedback for Car Drivers," Hyundai Motor Company
2021	"Multi-Modal Interface Trends," Patent Examiner Education, Korea Intellectual Property Office
2020	"Haptic Rendering Techniques for Virtual and Augmented Reality," Invited Talk, International Workshop on A/VR, Korea
2020	"Data-Driven Haptic Modeling and Rendering of Hyper-Elasticity and Plasticity," Invited Talk, Korea Haptics Community Workshop 2020.
2020	"Haptic Rendering for Virtual and Augmented Reality," Tutorial, MMM2020.
2019	"Networked Haptics and 5G Tactile Internet," Invited Talk, ETRI
2019	"Creating Better Feedback with Ease: Data-Driven Haptics and Haptic Augmentation," Invited Speaker in "Rising Star in Haptics" Session, Aslla Symposium.
2019	"Haptic Interaction for VR and AR Applications," Invited Talk, Dept. CSE, Korea University.
2018	"Perceptually Correct Tactile Rendering in Mid-Air Using Ultrasound Phased Array Haptic Interface," Invited presenter in Mid-air haptics for control interfaces Workshop, SIGCHI 2018.
2017	"Haptics Technologies for VR," Invited Seminar, KETI.
2017	"Haptic Interaction for VR and AR applications," Invited Talk Session, Global Holographic Industries Forum 2017.
2016	"Haptics for VR and AR," Invited Seminar, ETRI.
2016	"Haptic Perception and Psychophysics," Invited Seminar, Dept. EE, Soongsil University.
2016	"Tutorial: Design, Implementation, and Evaluation of Haptic System," Tutorial Organizer, HCI Korea 2016.
2016	"Haptic System and Haptic Display Technology," Invited Talk, Display System Workshop 2016.
2016	"Haptic System and Ultrasonic Non-Contact Haptics," Invited Seminar, ETRI.
2015	"Haptic Augmented Reality," Invited Talk, IoT Workshop, Daegu.
Aug. 2014	"Introduction to Haptics Laboratory at KHU," Korea Haptics Workshop 2014.
Jun. 2014	"Haptic Augmented Reality," Workshop Presentation, Multisensory softness workshop in EuroHaptics 2014.
Jun. 2014	"Augmenting Human through Haptic AR," Workshop Presnetation, ICRA Workshop on Human Modeling and Control for Assistive Technologies, 2014.
Apr. 2014	"Research Progress on Haptic Augmented Reality," KJMR Workshop 2014.
Feb. 2014	"Modeling and Rendering of Stiffness for Haptic Augmented Reality," Workshop

Presentation, Multisensory softness workshop in Haptics Symposium 2014.

Mar. 2013   "Haptics in Medicine," Invited Seminar, The Korean Society of Medical & Biological Engineering.

Nov. 2012   "Haptic Augmented Reality," Regular Seminar, Dept. CSE, POSTECH.

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